



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
NOVEMBER 2, 2006 – 9:00 A.M.
MULTI-MODAL CONFERENCE ROOM**

Present: L. Tibbits J. Friend J. Polasek
B. J. O'Brien J. W. Reincke M. Van Port Fleet
J. D. Culp C. Roberts T. Fudaly
E. Burns

Absent: T. Anderson C. Bleech

Guests: M. Bott C. Torres M. Chaput (for T. Anderson)
J. Morena

OLD BUSINESS

1. Approval of the Minutes of the September 7, 2006, Meeting – L. Tibbits

The September 7, 2006, meeting minutes are approved with minor edits.

NEW BUSINESS

1. Traffic Lane Conspicuity Stripes (TLCS) – J. Morena and M. Bott

Most pavement markings do not reflect well once covered by water. With the discontinuation of the use of raised pavement markers (RPMs) due to maintenance issues, a practical alternative is desired. TLCS may be a low cost alternative to RPMs. By using a 4 in. by 4 ft strip of tape recessed or inlaid in the pavement at 100 ft spacing, MDOT can provide an all-weather marking without the maintenance issues of an RPM. They can be used on either freeway or non-freeway. Other states have had success with TLCS.

ACTION: EOC approves the use of recessed TLCS as a low cost alternative to RPMs to improve wet/night visibility. The Traffic and Safety Division will develop guidelines for evaluation and statewide implementation.

EOC approves pilot installations of non-recessed TLCS to evaluate how they perform in differing conditions. Mark Chaput will coordinate with the regions to identify two candidate projects in each region (one concrete and one HMA).

2. Pavement Markings on Shoulder Rumbles – “Rumble Stripes” – J. Morena and M. Bott

This item is tabled until the December meeting.

3. Pavement Selections

a. I-94 Eastbound Reconstruction, CS 80024 and 39024, JN 83935 – B. Krom

The reconstruction alternates considered were a hot mix asphalt (HMA) pavement (Alternate 1 – equivalent uniform annual cost [EUAC] \$62,944/directional mile) and a jointed plain concrete pavement (Alternate 2 - EUAC \$55,218/directional mile). A life cycle cost analysis was performed and Alternate 2 was approved based on having the lowest EUAC. The pavement design and cost analysis are as follows:

12.5"	.....	Jointed Plain Concrete Pavement w/16' joint spacing (mainline)
2"	.....	HMA, 5E3, Top Course (shoulders)
2.5"	.....	HMA, 4E3, Leveling Course (shoulders)
4.5"	.....	HMA, 2E3, Base Course (shoulders)
6"	.....	Aggregate Base, Modified (mainline)
9.5"	.....	Aggregate Base, Modified (shoulders)
		Geotextile Separator (mainline)
		Existing Sand Subbase
4" dia.	.....	Subbase Underdrain System
18.5"	.....	Total Thickness

Present Value Initial Construction Costs	.....	\$685,308/directional mile
Present Value Initial User Costs	.....	\$227,062/directional mile
Present Value Maintenance Costs	.....	\$74,745/directional mile
Equivalent Uniform Annual Cost	.....	\$55,218/directional mile

b. I-475 Reconstruction, CS 25132, JN 87256 – B. Krom

The reconstruction alternates considered were an HMA pavement (Alternate 1 – EUAC \$214,317/directional mile) and a jointed plain concrete pavement (Alternate 2 - EUAC \$215,178/directional mile). A life cycle cost analysis was performed and Alternate 1 was approved based on having the lowest EUAC. The pavement design and cost analysis are as follows:

1.5"	.....	HMA, 5E10, Top Course (mainline & inside shoulder)
2.5"	.....	HMA, 4E10, Leveling Course (mainline & inside shoulder)
5"	.....	HMA, 2E10, Base Course (mainline & inside shoulder)
1.5"	.....	HMA, 5E3, Top Course (outside shoulder)
2.5"	.....	HMA, 4E3, Leveling Course (outside shoulder)
5"	.....	HMA, 2E3, Base Course (outside shoulder)
6"	.....	Aggregate Base (mainline & shoulders)
18"	.....	Sand Subbase
6" dia.	.....	Underdrain System
33"	.....	Total Section Thickness

Present Value Initial Construction Costs	\$666,766/directional mile
Present Value Initial User Costs	\$3,053,146/directional mile
Present Value Maintenance Costs.....	\$111,393/directional mile
Equivalent Uniform Annual Cost	\$214,317/directional mile

(Signed Copy on File at C&T)

Brenda J. O'Brien, Secretary
Engineering Operations Committee

BJO:kar

cc:	K. Steudle	S. Mortel	J. Steele (FHWA)
	J. Shinn	D. Jackson	R. Brenke (ACEC)
	L. Hank	W. Tansil	G. Bukoski (MITA)
	EOC Members	D. Wresinski	D. DeGraaf (MCPA)
	Region Engineers	C. Libiran	D. Hollingsworth (MCA)
	TSC Managers	R. J. Lippert, Jr.	J. Becsey (APAM)
	Assoc. Region Engineers	T. L. Nelson	M. Newman (MAA)
	T. Kratofil	T. Phillips	J. Murner (MRPA)
	M. DeLong	K. Peters	G. Naeyaert (ATSSA)
	B. Shreck	J. Ingle	C&T Staff